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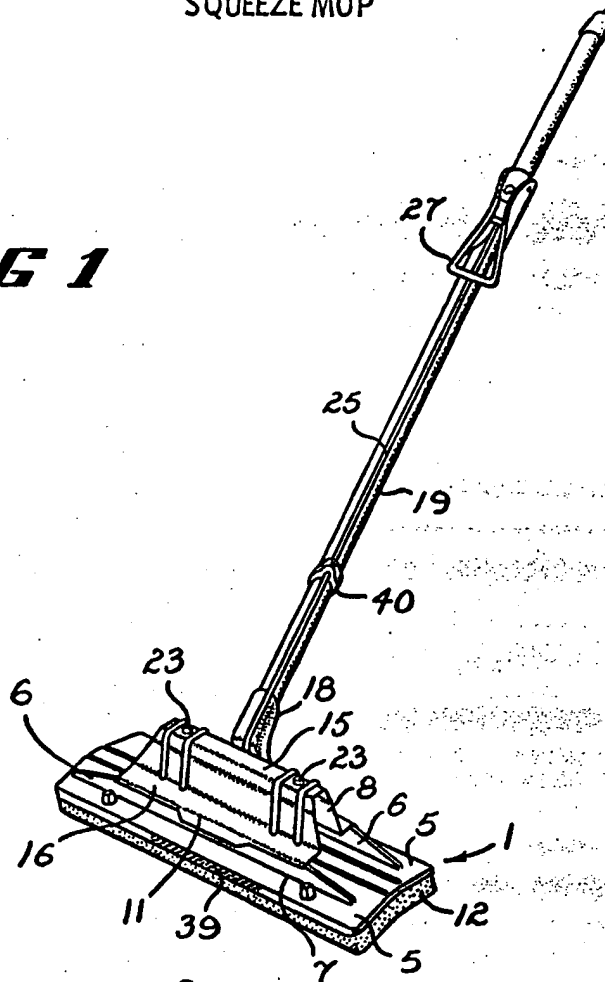
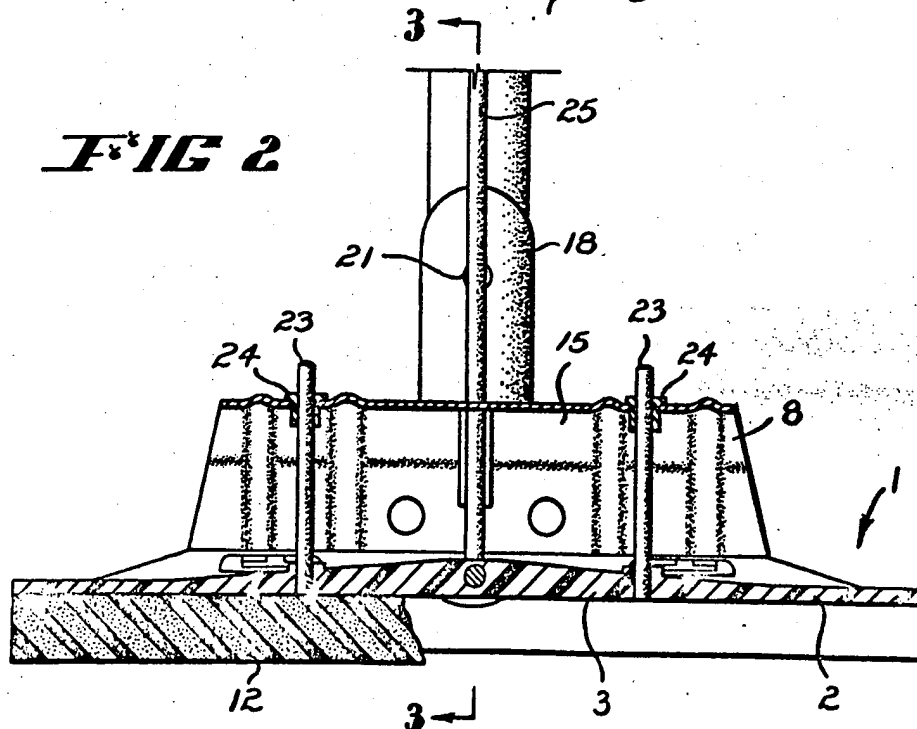
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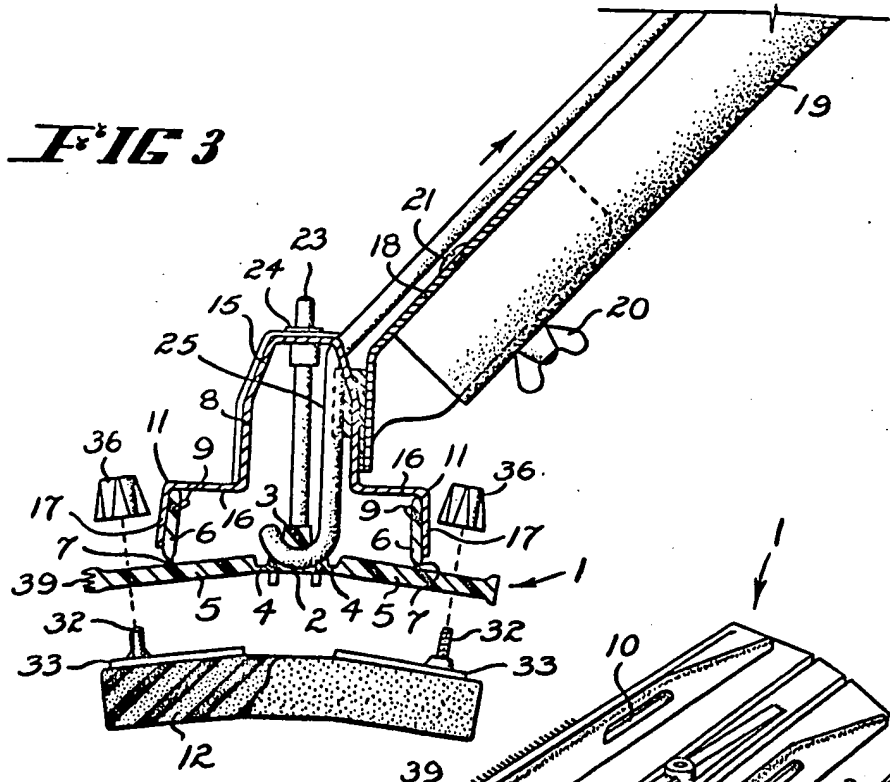
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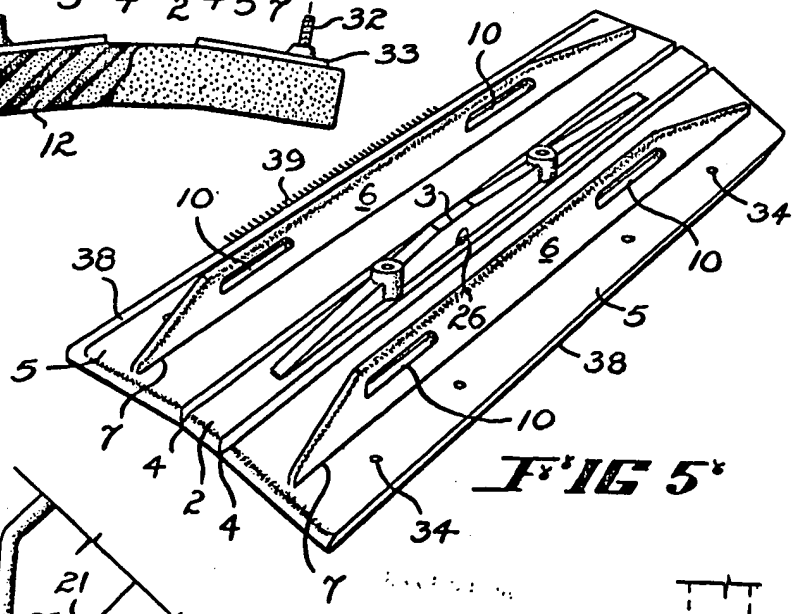
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SQUEEZE MOP**FIG 1****FIG 2**

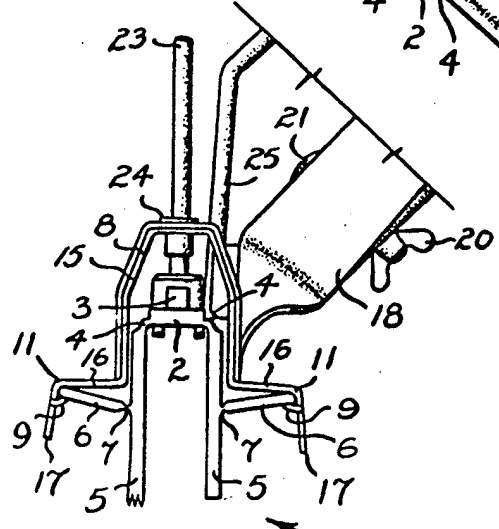
**FIG 3**



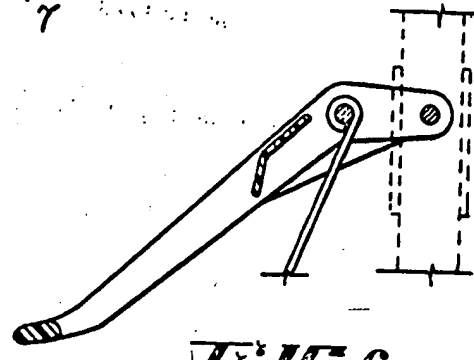
**FIG 5**



**FIG 4**



**FIG 6**



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CLASS 15-43

# CANADIAN PATENT

CANADA  
DIV. 36

15

SQUEEZE MOP

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No. OF CLAIMS 5

This invention relates to an improved squeeze mop.

Squeeze mops have been proposed heretofore which comprise a sponge which is adapted to form the operative surface of the mop and which is so mounted on a holding member that on actuation of a lever or the like the sponge can be gripped between appropriate parts and squeezed to force any water from it.

10 There are a number of ways in which the squeezing action can be obtained such as by moving rollers or the like over a centrally held sponge which exert the necessary pressure, or to so mount the sponge about a central plane that squeeze members moved by rollers engaging same can be swung to fold the sponge about its centre and to then exert pressure on to the two folded halves.

It will be realised that the latter form of the device, which is the general form of the present invention, poses a number of problems in the mounting of the sponge and the supporting of the squeeze or pressure exerting members on a frame which will allow simplicity of construction but effective operation.

20 The present invention therefore has as an object a squeeze mop in which an improved construction is attained which will not only simplify the mechanism involved but will also give a relatively cheaper construction yet one which will give effective squeezing of the sponge coupled with good operation of same when it is being used as a mop.

A further object is to so effect the squeezing that damage to the sponge due to internal pressures does not occur.

A still further object is to be able to control the extent of the squeezing for wet or dry mopping.

The improved squeeze mop according to this invention comprises a transversely extending frame, handle support means on the

frame, a squeeze member comprising two pressure members hingedly connected to form a support for a sponge, control members hingedly attached to the pressure members intermediate their edges to project therefrom and having their free ends hingedly engaging the said transversely extending frame, means connected to the pressure members to move them accurately under guidance of the control members by moving the hinged interconnection in a medial plane, whereby to move the pressure members from a position where they are relatively co-extensive for mopping to a position where they are substantially parallel for squeezing, the said two pressure members as well as the control members being all formed of a plastic material with the hinges thereof formed by thinner sections of the plastic whereby a single piece unit is formed.

To enable the invention to be fully appreciated an embodiment thereof will now be described with reference to the accompanying drawings in which:

Fig. 1 is a perspective view of such an embodiment,

Fig. 2 is an enlarged longitudinal section,

Fig. 3 is a transverse section, as on line 3-3 of Fig.

2 but showing the sponge removed,

Fig. 4 is an end elevation of the operative mechanism in squeeze position,

Fig. 5 is a perspective view of the squeeze member, and

Fig. 6 is a sectional view of the operating lever.

The squeeze member 1 is formed of a single plastic moulding in which the hinges are formed by thinner sections on the plastic, the squeeze member comprising a central operating member 2 reinforced by means of an upstanding web 3 to give a central point from which it can be actuated, while on each side this central

member has thinner longitudinally positioned hinging sections 4 from which heavier pressure members 5 extend outwardly. At approximately the centres of the sections 4 are joined the control members 6, again by thinner sections 7 of the same plastic, so that the complete squeeze member 1 is of unitary construction formed from a suitable plastic, and can then simply be engaged on the main frame 8 which is shaped to give correct actuation of the squeeze member under influence of guides and operating mechanisms.

10 The actual shape of the squeeze member 1 is such that normally it is disposed with the central member 2 and the two pressure members 5 substantially in the same plane but with the control members 6 projecting approximately at right angles therefrom, these control members 6 having their upper edges engaged on lugs 9 on the main frame 8, the unit being normally held in this way so that the sponge which is attached to the underside of the squeeze member can engage the ground during a mopping operation. The lugs 9 engage slots 10 in the control members 6, the top edges of the control members being accommodated in corner sections 11 of the main frame 8.

20 When the mechanism which operates the squeeze member is actuated the central member 2 of the squeeze member 1 is pulled upwardly at right angles to the plane of the squeeze member, and the action of this is to move the two pressure members 5 under influence of the control members 6 to swing the pressure members 5 inwardly and upwardly in an arcuate manner and to thus bend the sponge 12 about its centre and force one half of same against the other half as these pressure members 5 move together, this action effectively squeezing any moisture from the sponge 12 and allowing the sponge to then again assume its operative position by releasing

the central part 2 of the squeeze member 1 to allow it to swing back into operating position.

The main frame 8 comprises a somewhat "U"-shaped member 15 which in use is inverted and has outwardly projecting flanges 16 at its open end which are bent downwardly at their extremities 17, these forming the means which support the control members 6 of the pressure members 5, the control members 6 lying against them when the sponge is in operative position.

10 Fitted to one side of this main frame 8 is a handle support 18 into which the handle 19 is engaged, a wing nut 20 in a bolt 21 locking the handle in place.

The main frame 8 has the inturned lugs 9 on it which engage through the slots 10 in the control members 6 and lock these control members 6 to the frame 8, the lugs 9 however allowing the control members to swing from a position where they lie against the downturned ends 9 of the flanges to a position where they lie along the underside of the out-turned flanges 16, that is they move from a position where they project approximately downwardly from the main frame when in operative position to a position where they lie in approximately the same plane, having moved inwards about the corner sections 11 until the edges which are hinged to the pressure members 5 of this squeeze member 1 approach each other.

20 The central member 2 of the squeeze member 1 is provided with an upstanding web 3 as stated which serves the purpose of supporting a pair of upstanding guide pins 23 which pass through bushings 24 in the upper part of the main frame 8, these guide pins 23 ensuring that the central member 2 will not tilt in use or when it is drawn up into the inverted "U"-shaped portion of the main frame 8 when a squeezing operation is being effected.



Also engaged on this upstanding web 3 is the mechanism which pulls the central member upwardly within the main frame during a squeezing operation, this comprising a rod 25 which hooks through an aperture 26 in the central upstanding web 3 of the central member 2 and which extends upwardly along the handle to a lever 27 which is normally in a downward position to hold the squeeze member in this extended relatively flat location, but when this lever 27 is actuated, the rod 25 moves the central member 2 upwardly until the two pressure members 5 lie approximately side by side with the folded sponge 12 firmly squeezed between them.

The lever 27 is hinged at 28 to a base 29 which is secured to the handle 19, the rod 25 having a hook 30 which engages the lever 27.

From the foregoing it will be realised that a highly effective mopping and squeezing operation is possible because the squeeze member 1 can move from a position where it is approximately horizontal when mopping is proceeding, to a position where it is folded on itself about the central member 2 to cause the folded sponge to be squeezed dry. While the squeeze member can be built up, it will be realised that by completely moulding it in one piece, a highly effective construction results which will carry out the functions in an admirable manner.

With reference to the actual operation of the device it will be clear that the central member 2 as it moves upwardly will cause the control members 6 to hinge inwardly about their contact points with the corner sections 11 of the main frame 8, the pressure members 5 changing their position appropriately as they are moved into the squeezing position, but actually there will be only a slight movement between the control members 6 and the pressure

members 5 so that the hinging means 7 between these can be relatively rigid. The hinging means 4 of the pressure members 5 to the central member 2 requires to move through a greater arc but this can be achieved by use of thin sections of modern plastics such as polypropylene.

The sponge 12 is detachably secured to the pressure members 5 by threaded stems 32 on plates 33 cemented to the sponge 12, these stems 32 passing through apertures 34 in the pressure members 5 and having nuts 36 engaged thereon to lock the assembly together.

10 Preferably one of the longitudinal edges 38 of the pressure members 5 is serrated or brush shaped as shown at 39 for removal of spots or any tightly adhering material.

A rod guide 40 is preferably positioned on the handle 19.

The central member could be omitted provided the hinge between the two pressure members is of such a nature that the hinging plane can be moved up and down to give the arcuate movement of the pressure members while leaving sufficient width between the members to accommodate the folded sponge.

20 How hard this hinging plane is drawn up decides how much squeezing will be effected so that a relatively wet or dry mopping can result.

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. An improved squeeze mop comprising a transversely extending frame, handle support means on the frame, a squeeze member comprising two pressure members hingedly connected to form a support for a sponge, control members hingedly attached to the pressure members intermediate their edges to project therefrom and having their free ends hingedly engaging the said transversely extending frame, means connected to the pressure members to move them arcuately under guidance of the control members by moving the hinged interconnection in a medial plane, whereby to move the pressure members from a position where they are relatively co-extensive for mopping to a position where they are substantially parallel for squeezing, the said two pressure members as well as the control members being all formed of a plastic material with the hinges thereof formed by thinner sections of the plastic whereby a single piece unit is formed.
2. An improved squeeze mop comprising a transversely extending frame, handle support means on the frame, a squeeze member comprising a central operating member and two pressure members hingedly connected to the edges of the operating member to form a support for a sponge, control members hingedly attached to the pressure members intermediate their edges and engaging the said transversely extending frame, and means connected to the operating member to move the operating member in a plane medial to the pressure members from a position where they are relatively co-extensive for mopping to a position where they are substantially parallel for squeezing, the said central

operating member and the two pressure members as well as the control members being all formed of a plastic material with the hinges thereof formed by thinner sections of the plastic whereby a single piece unit is formed.

3. An improved squeeze mop comprising a transversely extending frame of inverted "U"-shape, handle support means on the frame, a squeeze member comprising a central operating member and two pressure members hingedly connected together to form a support for a sponge, a sponge connected to said members to form a surface on one side of the members, control members hingedly attached at one edge to the pressure members and engaging the said transversely extending frame at their other edge, means connected to the operating member to move the operating member into and out of the "U"-shaped frame whereby to move the pressure members from a position where they are relatively co-extensive for mopping to a position where they are substantially parallel for squeezing, upstanding guide pins on said operating member engaging said frame, the said central operating member and the two pressure members as well as the control members being all formed of a plastic material with the hinges thereof formed by thinner sections of the plastic whereby a single piece unit is formed.

4. An improved squeeze mop comprising a transversely extending frame of inverted "U"-shape, handle support means on the frame, a handle engaged on said support means, a squeeze member comprising a central operating member and two pressure members hingedly connected together to form a support for a

sponge, a sponge connected to said members to form a surface on one side of the members, control members hingedly attached on one edge to the pressure members and engaging the said transversely extending frame at their other edge, means to hingedly confine the said edge on the frame, a rod connected to the operating member and to a lever on the handle to move the operating member into and out of the "U"-shaped frame whereby to move the pressure members from a position where they are relatively co-extensive for mopping to a position where they are substantially parallel for squeezing, upstanding guide pins on said operating member engaging said frame, the said central operating member and the two pressure members as well as the control members being all formed of a plastic material with the hinges thereof formed by thinner sections of the plastic whereby a single piece unit is formed.

5. For an improved squeeze mop comprising a transversely extending frame and handle support means on the frame, a squeeze member comprising a central operating member and two pressure members and two control members; said pressure members being adapted to support a sponge, said pressure members being hinged by one edge on each side to said pressure member to be substantially co-extensive therewith when in normal unfolded position, said control members being hinged at one edge one to each pressure member along a line substantially medial on the said pressure members and extending upwardly thereon with the free edges adapted to engage said frame, said operating member being adapted to be engaged by operating means guided in said

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frame to move said operating member medially between the parts of the frame which engage said control members, the central operating member and the pressure members and the control members being formed of a single piece of plastic with the hinges formed by thinner sections thereof.

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